HYDROBIOLOGICAL JOURNAL

VOLUME 22

CONTENTS FOR 1986

Number 1

V.D. Romanenko: Scientific and Technical Progress and the Tasks of Hydrobiology 1

I.L. Korelyakova: Macrophytes of Large Plains Reservoirs 5

V.F. Matveyev, Yu.E. Romankovskiy, and A.I. Kartashov: Effect of Predaceous Larvae of *Chaoborus flavicans* (Diptera, Chaoboridae) on Summer Crustacean Zooplankton of a Mesotrophic Lake 9

L.D. Mitsukova: Chemical Composition and Energy Value of *Gammarus lacustris* 15

A.G. Benzhitskiy and A.S. Lopukhin: ATP Content of Microplankton near Rises in the Southern Atlantic 20

L.O. Eynor: Effect of Semisubmerged Vegetation on Water Quality in Stagnant Littoral Sections of Reservoirs 26

G.F. Kostarev: Cyclicity of Fish Parasite Development in Reservoirs of the Middle Kama Cascade 31

Ye.A. Kuftarkova: Components of the Carbon Dioxide-Carbonate System in the Decomposition of Unstable Organic Matter 36

Yu.V. Panasenkov and V.A. Ivanov: Effect of Phenols on Absorption of $^{14}CO_2$ by a Natural Pelagic Microbe Population of Lake Baikal 40

N.I. Kirpenko: Phytopathic Properties of Blue-Green Algae Toxin 44

S.I. Genkal: Counting of Diatom Algae under Scanning and Transmitting Electron Microscope 48

L.G. Senichkina: Calculation of Cell Volume of Diatom Algae from Volume Filling Factors 54

V.V. Sherstyuk: A Chamber for Counting Food Organisms for Fish Diet Study 58

V.N. Savitskiy, V.I. Peleshenko, and V.I. Osadchi: Extractive Atomic Absorption Determination of Microgram Quantities of Copper and Iron in Natural Waters 60

N.M. Stepanenko: Development of the Zoobenthos of Sasyk Lagoon during Its Alteration by a Water Engineering Project 64

M.V. Steblyuk, V.A. Gozhenko, and L.M. Titova: Phytoplankton of Upper Kakhovka Reservoir in the 20th Year of Operation 69

V.A. Sokolova: Water Quality of the Vilyuy River in Relation to Its Zooplankton 73

Yu.S. Chuykov and A.G. Merkulov: Association of Invertebrate Species in the Plankton of the Lower Volga 76

Yu.D. Konovalov: Survival Rate and Sorption Properties of Carp Embryo in Media Containing Antibiotics 78

V.A. Kundiyev and I.V. Kryzhanovskiy: Zooplankton as a Factor in the Environment of Fresh-Water Fish Larvae 80

Yu.Ye. Bityukova, N.K. Tkachenko, and A.V. Cherpunov: Anomalous Embryos of the Flounder, *Psetta maeotica* 82

E.P. Shcherban': Toxicity of the Herbicide Ronstar to *Daphnia magna* . . . 83

N.P. Morozov, Ye.S. Pavlova, A.P. Selyutin and O.F. Filenko: Trace Elements in the Black Sea Mussel, *Mytilus galloprovincialis* 87

O.P. Tsvylev, M.V. Pereladov and S.A. Sokolova: Results and Prospects of Evaluation of the Feeding of Planktonic Crustaceans for Ecological-Toxicological Studies. 91

Ye.M. Nikonenko: Tilapia *Oreochromis mossambicus* as a Bioassay Organism for Toxicology Studies 98

HYDROBIOLOGICAL JOURNAL

VOLUME 22

CONTENTS FOR 1986

Number 1

V.D. Romanenko: Scientific and Technical Progress and the Tasks of Hydrobiology 1

I.L. Korelyakova: Macrophytes of Large Plains Reservoirs 5

V.F. Matveyev, Yu.E. Romankovskiy, and A.I. Kartashov: Effect of Predaceous Larvae of *Chaoborus flavicans* (Diptera, Chaoboridae) on Summer Crustacean Zooplankton of a Mesotrophic Lake 9

L.D. Mitsukova: Chemical Composition and Energy Value of *Gammarus lacustris* 15

A.G. Benzhitskiy and A.S. Lopukhin: ATP Content of Microplankton near Rises in the Southern Atlantic 20

L.O. Eynor: Effect of Semisubmerged Vegetation on Water Quality in Stagnant Littoral Sections of Reservoirs 26

G.F. Kostarev: Cyclicity of Fish Parasite Development in Reservoirs of the Middle Kama Cascade 31

Ye.A. Kuftarkova: Components of the Carbon Dioxide-Carbonate System in the Decomposition of Unstable Organic Matter 36

Yu.V. Panasenkov and V.A. Ivanov: Effect of Phenols on Absorption of $^{14}CO_2$ by a Natural Pelagic Microbe Population of Lake Baikal 40

N.I. Kirpenko: Phytopathic Properties of Blue-Green Algae Toxin 44

S.I. Genkal: Counting of Diatom Algae under Scanning and Transmitting Electron Microscope 48

L.G. Senichkina: Calculation of Cell Volume of Diatom Algae from Volume Filling Factors 54

V.V. Sherstyuk: A Chamber for Counting Food Organisms for Fish Diet Study 58

V.N. Savitskiy, V.I. Peleshenko, and V.I. Osadchi: Extractive Atomic Absorption Determination of Microgram Quantities of Copper and Iron in Natural Waters 60

N.M. Stepanenko: Development of the Zoobenthos of Sasyk Lagoon during Its Alteration by a Water Engineering Project 64

M.V. Steblyuk, V.A. Gozhenko, and L.M. Titova: Phytoplankton of Upper Kakhovka Reservoir in the 20th Year of Operation 69

V.A. Sokolova: Water Quality of the Vilyuy River in Relation to Its Zooplankton 73

Yu.S. Chuykov and A.G. Merkulov: Association of Invertebrate Species in the Plankton of the Lower Volga 76

Yu.D. Konovalov: Survival Rate and Sorption Properties of Carp Embryo in Media Containing Antibiotics 78

V.A. Kundiyev and I.V. Kryzhanovskiy: Zooplankton as a Factor in the Environment of Fresh-Water Fish Larvae 80

Yu.Ye. Bityukova, N.K. Tkachenko, and A.V. Cherpunov: Anomalous Embryos of the Flounder, *Psetta maeotica* 82

E.P. Shcherban': Toxicity of the Herbicide Ronstar to *Daphnia magna* . . . 83

N.P. Morozov, Ye.S. Pavlova, A.P. Selyutin and O.F. Filenko: Trace Elements in the Black Sea Mussel, *Mytilus galloprovincialis* 87

O.P. Tsvylev, M.V. Pereladov and S.A. Sokolova: Results and Prospects of Evaluation of the Feeding of Planktonic Crustaceans for Ecological-Toxicological Studies. 91

Ye.M. Nikonenko: Tilapia *Oreochromis mossambicus* as a Bioassay Organism for Toxicology Studies 98

Number 2

N.V. Butorin: Scientific and Technical Progress and the Coordination of Hydrological Research 1
N.V. Kondrat'yev: A Morphological Approach to Studying the Variability of Algal Populations in Inland Waters 4
L.A. Sirenko, F.Ya. Sid'ko, N.A. Frank, A.V. Kureyshevich, A.D. Aponasenko, A.F. Sid'ko, D.A. Medved', V.A. Vasil'yev, and L.A. Balakchina: Information Content of the Distribution Characteristics of Phytoplankton Chlorophyll 11
J.F. Guziur: Preliminary Classification and Evaluation of Fish Production in Small Water Bodies of Poland 20
M.P. Boytsov, V.P. Gurov, and Yu.R. Nikanorov: Composition, Abundance and Growth of Juvenile Fish in a Dredged Area of Ivan'kovo Reservoir 27
M.L. Ludyanskiy and V.N. Solonin: Effect of Copper Compounds on Biological Fouling 32
G.N. Oleynik and V.M. Yakushin: Effect of Substrate on Decomposition of Organic Matter 38
N.A. Potapova and T.V. Korolevskaya: Growth Reaction of Aquatic Bacteria as a Biological Test for Toxicity of the Aquatic Environment 44
S.M. Golubkov and A.M. Pavlov: Growth and Energy Metabolism of Larvae of *Coenagrion hastulatum* (Odonata: Zygoptera) 48
Ye.I. Shakhmatova, V.Ya. Berger, Ye.A. Lavrova, Yu.V. Natochin, and O.Yu. Chaga: Role of Electrolytes in Cellular Osmoregulation of White Sea Invertebrates and Fish 54
Ts.I. Bobovnikova, Ye.P. Virchenko, A.V. Dibtseva, A.V. Yablokov, G.N. Solntseva, and D.V. Pastukhov: Aquatic Animals as Indicators of the Presence of Organochlorine Pesticides and Polychlorinated Biphenyls in the Aquatic Environment 61
B.I. Kolupayev and V.A. Putintseva: Activity of Respiratory Enzymes of Fish in a Toxic Environment 65
B.I. Novikov: Effect of Current Velocity on Certain Components of Reservoir Ecosystems as Exemplified by the Dnieper Reservoirs 68
V.I. Lavrik: A Mathematical Model for Determining and Forecasting the Qualitative Makeup of Surface Waters 74
V.V. Bul'on and S. Tserevosambu: Comparison of Two Methods of Determining Phytoplankton Primary Production 78
B.V. Kurbatov and E.G. Makhmutov: Use of Holographic Interferometry to Study Flow Over the Bodies of Hydrobionts (Preliminary Experiments) . . 84
D.N. Matorin, I.R. Vasil'yev, P.S. Venediktov, and S.P. Zakharov: Continuous Recording of Active Phytoplankton in Water Bodies by Delayed Fluorescence 88
O.A. Yunev and G.P. Berseneva: Fluorimetric Method of Determining Concentration of Chlorophyll A and Pheophytin A in Phytoplankton 91
V.S. Sarviro: An Instrument for Studying the Distribution of Planktonic Filter-Feeders in a Flow with a Concentration Gradient of Solutions and Suspended Food Material 97
S. Fabre Navarrete: Quantitative Distribution of Zooplankton Off the Northeast Coast of Cuba 101
V.P. Gandzyura: Body Nitrogen Content of Fish from Dnieper Reservoirs . . 107
L.Ye. Ayvazova and A.O. Gvozdov: Bioassay of Effluent from Fish Processing Plants 110

Number 3

The Role of Hydrobiological Science in Carrying out the Decisions of the 27th CPSU Congress 1
D.V. Dubyna and Yu.R. Shelyag-Sosonko: Ecobiomorphological Structure of the Aquatic Macrophyte Flora of the Ukraine 6
D.A. Nesterova and L.S. Vasilenko: Size Classification of Common Species of Phytoplankton in the Western Black Sea 14
I.S. Trifonova: Seasonal and Main Succession of Lake Phytoplankton . . . 19

V.P. Semenchenko: Production and Energy Flow in a Population of Relict *Pontoporeia affinis* in Lake Yuzhnyy Volos 26
O.N. Vasil'chenko: Main Patterns in the Development of Biological Productivity in Fish Culture Waters of the Volga Delta 31
A.N. Dzyuban and T.M. Timakova: Microflora and Decomposition of Organic Matter in the Water and Bottom Sediments of Lake Pert 37
I.A. Petrova: Ash Content of Macrophytes in Lakes of Various Types in the Southern Urals 42
V.P. Gorbik: Effect in Cutting and Burning in Reed and Cattail Communities of Kiev Reservoir 48
O.M. Arsan: The Role of Water Temperature in Regulation of Glycolysis and the Citric Acid Cycle in Fish 54
S.A. Gormosova and V.A. Tamozhnyaya: Some Aspects of Anaerobic Metabolism of Mussels 60
A.O. Gvozdov: Phototaxis as a Test Function in Bioassay 65
R.F. Dushauskene-Duzh: Role of Suspended Matter in Entraining Lead-210 and Forming Bottom Sediments of the Baltic Sea 69
P.N. Linnik and V.M. Timchenko: Heavy Metal Content of Suspended Matter in Danube Water 74
V.M. Gol'd, N.A. Gavyevskiy, I.Yu. Shatrov, V.A. Popel'nitskiy, and S.A. Rybtsov: Use of Fluorescence for Differential Determination of Chlorophyll A Content of Planktonic Algae 79
M.I. Rokhiyaynen and M.I. Senicheva: Comparative Evaluation of Two Methods of Laboratory Processing of Marine Phytoplankton Samples 85
B.V. Nesterenko: Comparative Evaluation of a Calculation Method for Determining Integral Primary Production 90
L.G. Senichkina: Calculation of Cell Volumes of Species of *Exuviaella* 93
T.V. Sipchenko: A Sedimentation Method for Determining Particle-Size Composition of Suspended Matter 96
T.A. Kharchenko and A.V. Lyashenko: Oxygen Consumption of Fresh-Water Sponges 99
V.A. Movchan and A.A. Protasov: Protozoans in the Periphyton of the Cooling Pond of the Chernobyl Nuclear Power Station 103
L.V. Lartseva: *Saprolegnia* on the Eggs of Sturgeons and Inconnu 106
P.G. Shevchenko, N.V. Koval', and L.V. Voronchuk: Habitat Conditions, Abundance, Distribution and Growth of Fry of Commercial Fish at the Mouth of the Desna River 111

Number 4

K.K. Votintsev: Evolution of the Water Quality of Lake Baikal 1
I.I. Nikolayev: Some Mechanisms of Competitive Coexistence of Taxonomically Similar Species in Plankton Communities 7
A.A. Voinov and A.P. Tonkikh: A Simple Model of the Eutrophication of a Macrophytic Lake 14
L.Ye. Kostikova: Periphyton Dynamics of Kiev Reservoir 20
N.P. Mokeyeva and B.V. Mezhov: Abundance of Zoobenthos as an Indicator of Changes in Marine Benthic Communities 26
T.G. Moroz, T.L. Aleksenko, L.V. Bortkevich, and A.Z. Sobolenko: The Benthos of Tiligul' Lagoon 30
V.I. Mogil'chenko: Some Aspects of the Feeding of Larval Commercial Fishes in Kanev Reservoir 34
V.N. Pshenitsyna: Effectiveness of the Woodiwiss Scale as a Bioindicator of Water Quality 40
V.S. Odintsov and N.A. Lapteva: Microorganisms and Nitrogen Fixation in Vostok Bay, Sea of Japan 44
T.M. Timakova and S.V. Monakova: Effect of Decomposition of Cellulose on Rate of Bacterial Processes in Water 49
A.I. Merezhko, T.I. Shokod'ko, and A.N. Lyashenko: Effect of Environmental Hydrogen Ion Concentration on Assimilation of Ammonia and Nitrate Nitrogen by Hornwort and Perfoliate Pondweed 55
V.M. Katanskaya: Ash Content of Macrophytes in Lakes of Western Siberia . 60

L.D. Gapochka and G.A. Karaush: Preparation of Phenol-Resistant Cultures of the Green Alga *Scenedesmus quadricauda* 64
N.A. Pertsov and B.Ya. Vilenkin: Rate of Division of Algal Cells on Solid Substrate at Various Depths 68
N.Yu. Yevtushenko: Effect of Various Manganese Concentrations on Protein Synthesis in Carp Liver 72
B.V. Yakovenko, V.V. Grubinko, and A.F. Yavonenko: Glutamine Synthetase Activity in Carp Liver during Fasting 76
S.M. Golubkov: Relationship of Oxygen Consumption Rate in Aquatic Insect Larvae to Body Weight 80
T.L. Shchekaturina: Hydrocarbons of Certain Benthic and Nektobenthic Invertebrates of the Barents Sea 89
V.M. Yurin and L.A. Korzheva: Modification of the Photoelectric Reaction of Cells of *Nitella flexilis* by Certain Aromatic Compounds 93
I.Kh. Alekperov and R.Yu. Kasimov: Use of Infusoria for Bioassay of Drilling Mud Purified by Heat Treatment 98
I.V. Telesh: Comparative Effectiveness of Methods of Counting Planktic Rotifers 101
V.F. Kovalenko: Method of Determining Gas Metabolism in Aquatic Animals 105
V.V. Anistratenko, Yu.D. Golovchenko, and G.M. Dyagileva: The Hydroscope, an Accessory for Observing and Photographing Inhabitants of Shallow-Water Lakes 107
A.O. Grozdov and S.A. Sokolova: Effect of Various Environmental Factors on Infusoria in Toxicological Experiments 110
I.N. Gorkin, E.V. Orlov, B.P. Smirnov, and A.P. Selyutin: Behavior Reactions of Juvenile Coho Salmon Exposed to Cadmium 119

Number 5

M.I. Gladyshev: Neuston of Inland Waters (A Review) 1
K.M. Kaminer, R.F. Zambriborshch, and G.I. Tokan: Quantity and Chemical Composition of *Phyllophora* in Bays of the Northwestern Black Sea . . 8
M.A. Rychkova: Attached Algae of Lake Ilmen' 12
A.I. Kovrizhnykh and L.I. Glavish: Phytoplankton of Aretmovsk Reserve Reservoir (Northern Donets-Donbass Canal System) 16
V.V. Glamazda and Yu.A. Katretskiy: Trophic Relationships Between Zooplankton and Bacterioplankton in Tsimlyansk Resevoir 19
Ye.S. Makartseva: Overall Stability of the Zooplankton Community and Its Indices during Eutrophication 22
V.Ye. Panov: Growth and Production of *Gammarus lacustris* in Neva Bay . . 27
F.S. Medvedev: Fresh-Water Nematodes of Waters of the Upper Yenisey River Basin 33
V.N. Zhukinskiy and Yu.D. Konovalov: Dye Absorption by Cyprinid Eggs as an Index of Embryonic Viability 36
Yu.K. Gaydash, N.I. Zagubizhenko and A.I. Korableva: Distribution and Food Importance of *Pontogammarus maeoticus* in Reservoirs of the Dnieper Steppes 41
Ye.V. Krasnoper and A.I. Bakanov: Variations in Caloric Content of Organims Consumed by Benthophagic Fishes in Rybinsk Reservoir 45
G.A. Zhdanova, S.I. Kosheleva, G.N. Oleynik, Ye.G. Martynova, L.V. Skorik, and L.N. Chernitskaya: Comparative Evaluation of Water Quality in the River Section of Kanev Reservoir 51
L.A. Kititsyna and A.G. Nikitenko: Oxygen Consumption by Yearling Grass Carp Infested with Cestodes 58
O.M. Arsan: Involvement of Ca^{2+} in Regulation of Glycolysis and the Tricarboxylic Acid Cycle in Carp Tissue under Various Temperature Regimes 63
Yu.V. Shilenko, V.G. Krasnikov, and N.V. Shilenko: Residues of the Herbicide Saturn in Fish and Aquatic Invertebrates 67
Yu.S. Churilov and V.I. Beloivanenko: The Black Sea Shrimp *Palaemon adspersus* as a Toxicological Test Species 70
E.P. Shcherban', I.V. Bragina, and L.I. Primostka: Effect of Bazagran on *D. magna* in Chronic Experiments 73

V.M. Timchenko and M.P. Kolesnik: Investigation and Prediction of Turbidity in Reconstructed Water Bodies (as Exemplified by the Dniester Lagoon) 78
L.A. Sirenko, L.A. Kul'skiy, Z.N. Shkavro, M.I. Medvedev, and V.M. Karasik: Procedure for Collecting and Concentrating Phytoplankton (Seston) in Eutrophic Waters 86
O.I. Nasvit, N.I. Buyanov, M.I. Kuz'menko: Determination of the Kinetic Parameters of Accumulation of Radionuclides by Ecosystem Components from the Equilibrium Concentration Coefficients 91
Ye.M. Nikonenko: Adaptation of *Artemia salina* to Toxicants 94
A.I. Startseva: Use of Unicellular Algae for Bioassay of Industrial Effluent 99
V.N. Tkachenko and N.N. Moliboga: Effect of Polluted Bottom Material on Benthic Organisms 104
N.G. Sheremeta: Cholinesterase of Young Sturgeon Under Normal Conditions and with Acute Pesticide Poisoning 108
V.K. Dokholyan, T.P. Akhmedova, A.K. Magomedov, and G.S. Shleyfer: Physiological and Biochemical Supporting Data for Regulation of Discharges of Toxic Compounds into the Environment 112

Number 6

I.V. Maksimova and O.A. Sidorova: Light-Dependent Anti-Bacterial Effect of Algae and Its Ecological Significance 1
T.I. Kazantseva: Using Computers for Calculations of Ecological-Physiological Production Characteristics of Lake Zooplankton 10
O.M. Kozhova, L.Ya. Ashchepkova, E.N. Kuzevanova, and N.G. Mel'nik: Long-Term Dynamics of Abundance of Planktic Copepoda in Lake Baikal 16
G.M. Shvetsova: Distribution of Mysids in the Southeastern and Eastern Baltic Sea 25
T.D. Slepukhina: Evaluation of the Trophic Levels of Deep Lakes from the Composition of Benthic Invertebrate Communities (as Exemplified by Lake Ladoga) 31
L.V. Shevtsova, G.A. Zhdanova, V.A. Movchan, and A.B. Primak: Experimental Interrelationship between *Dreissena* and Planktic Invertebrates . . . 36
V.Ya. Timm and T.E. Timm: Terminology of the Benthic Zone of Lakes 40
Yu.I. Posudin: Light-Induced Movement of Chloroplasts as Exemplified by Certain Aquatic Plants and Algae (a Review) 46
V.B. Nebesnyy, D.V. Dubyna, V.A. Kanevskiy, S.G. Shvareva, and Yu.R. Shelyag-Sosonko: Spectrophotometric Study of Aquatic Vegetation 53
V.B. Vladimirov and M.A. Skulyari: Adaptation of the Black Sea Macroalgae *Ulva rigida* to Copper Ions 57
V.L. Kas'yanov: Adaptation of Marine Bivalve Larvae and Echinoderm Larvae to Life in the Pelagic Zone (a Review) 60
Ye.V. Kuz'min and V.I. Luk'yanenko: Biochemical Heterogeneity of the Volga Sterlet, *Acipenser ruthenus*, as Indicated by Nonspecific Serum Esterases 66
Kim Yen, S.N. Kadura, L.I. Byatchanina, S.N. Khrapunov, and G.D. Berdyshev: Principal Nucleoproteins of Testes and Spermatozoids of Cypriniformes and Perciformes 70
O.G. Mironov, N.Yu. Milovidova, and L.N. Kiryukina: Maximum Permissible Concentrations of Petroleum Products in Bottom Sediments of the Coastal Zone of the Black Sea 76
A.Z. Shapiro and A.N. Bobkova: Effect of Toxins in Antifouling Paints on Enzymes of Carbohydrate Metabolism in Certain Fouling Organisms 79
A.A. Shavykin and A.A. Ivanov: Modernization of the Kvant Fluorimeter for Rapid Determination of Phytoplankton Chlorophyll 83
V.Ye. Panov and A.M. Pavlov: Method of Counting Aquatic Invertebrates in Beds of Bulrush and Reed 87
T.A. Kharchenko and A.V. Lyashenko: Metabolic Rate of *Monodacna colorata* in Canals 89
Yu.A. Shustov, O.G. Kuz'min, V.G. Mitenev, and Yu.A. Smirnov: Food Base for Young Salmon in the Pyalitsa River (Kola Peninsula) 92